ARMY SBIR
SMALL BUSINESS INNOVATION RESEARCH

MISSION

The Army SBIR program is designed to provide small, high-tech businesses the opportunity to propose innovative research and development solutions in response to critical Army needs.

VISION

To be the Army's premier source of innovative technology solutions, providing direct access to America's high-tech small business research and development community, enabling our Soldiers deployed around the world.

FY16 Army SBIR Overview

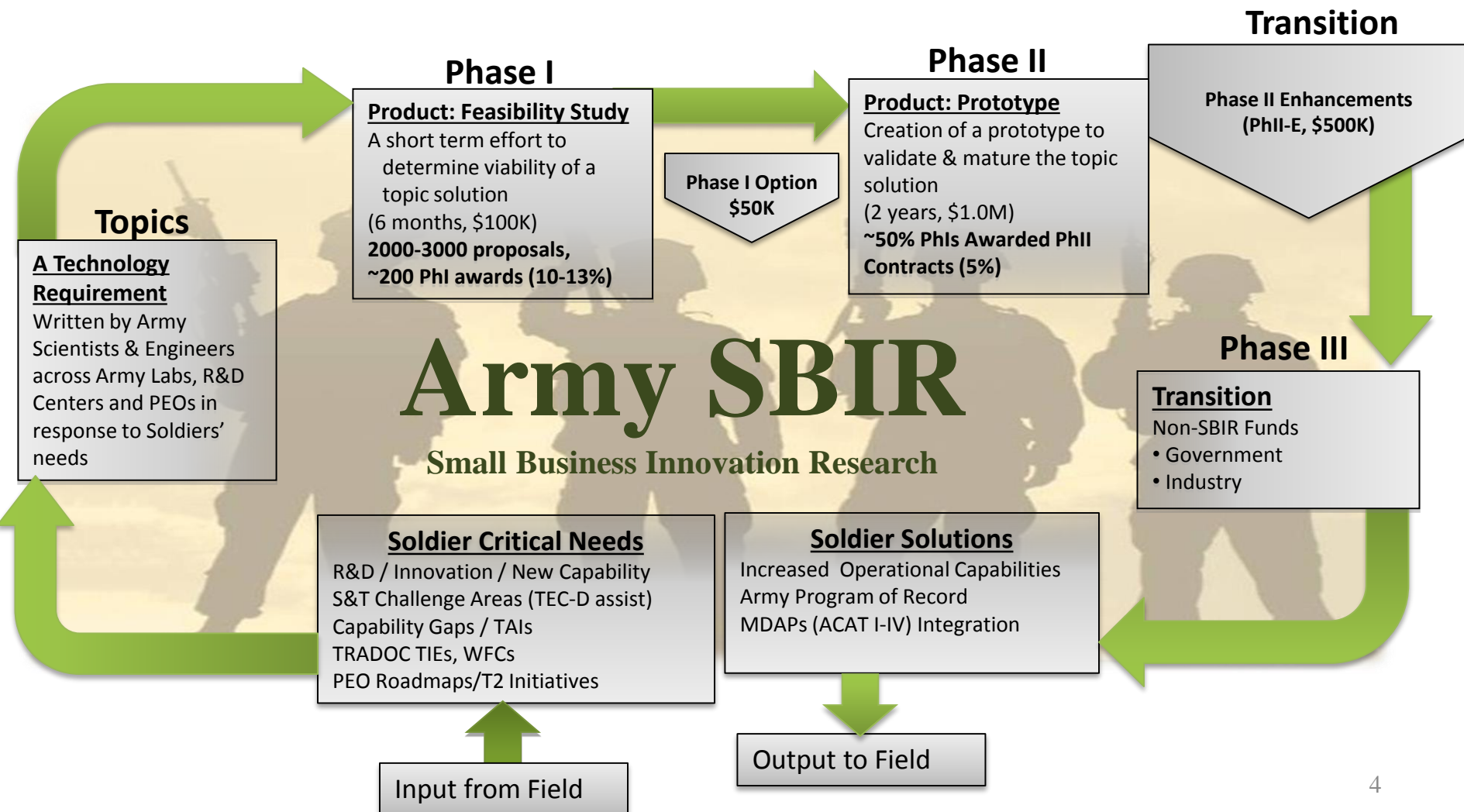## M. John Smith
Program Manager

What is SBIR?

- Congressionally mandated program across the Federal Government to provide small businesses and research institutions opportunities to participate in government sponsored research and development

- SBIR provides funding to small, hi-tech businesses to research, design, develop and test prototype technologies related to specific Army needs, which are issued as solicitation topics

- The program stimulates technological innovation, integrates small business-developed inventions into defense systems, and increases commercial application of Army supported research and development efforts

Goals of SBIR

- Stimulate technological innovation

- Use small business to meet federal R&D needs

- Foster and encourage participation by socially and economically disadvantaged small business concerns (SBCs), and by SBCs that are 51% owned and controlled by women, in technological innovation

- Increase private sector commercialization of innovations derived from federal R&D; thereby increasing competition, productivity, and economic growth
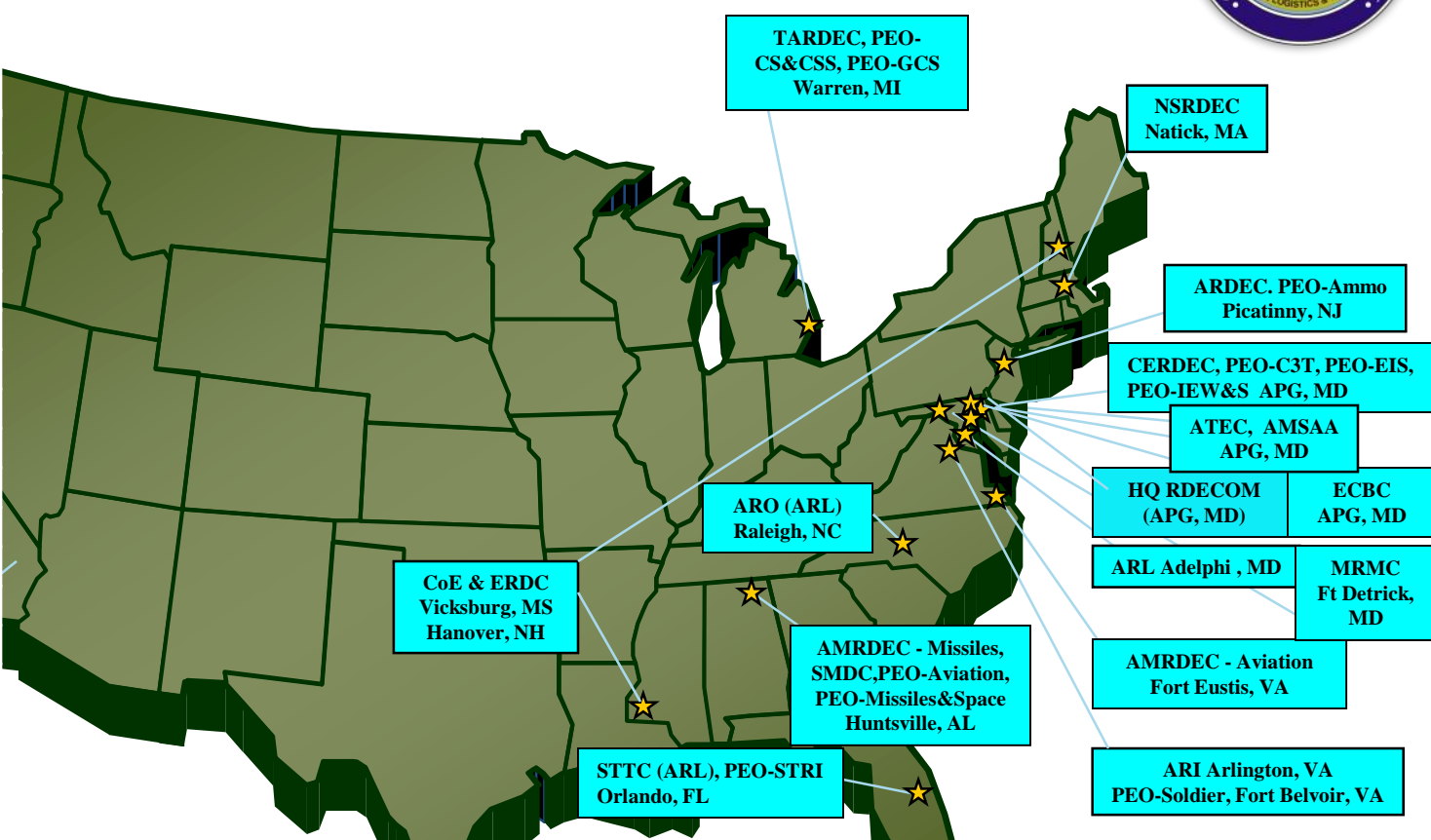
ARMY SBIR Life Cycle

Transition

Phase I

Product: Feasibility Study
A short term effort to determine viability of a topic solution
(6 months, $100K)
2000-3000 proposals, ~200 PhI awards (10-13%)

Phase I Option $50K

Phase II

Product: Prototype
Creation of a prototype to validate & mature the topic solution
(2 years, $1.0M)
~50% PhIs Awarded PhII Contracts (5%)

Phase II Enhancements (PhII-E, $500K)

Topics

A Technology Requirement
Written by Army Scientists & Engineers across Army Labs, R&D Centers and PEOs in response to Soldiers' needs

Army SBIR

Small Business Innovation Research

Phase III

Transition
Non-SBIR Funds
• Government
• Industry

Soldier Critical Needs
R&D / Innovation / New Capability
S&T Challenge Areas (TEC-D assist)
Capability Gaps / TAIs
TRADOC TIEs, WFCs
PEO Roadmaps/T2 Initiatives

Soldier Solutions
Increased Operational Capabilities
Army Program of Record
MDAPs (ACAT I-IV) Integration

Input from Field

Output to Field

4

Army History

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Budget ($M)	$243	$270	$265	$244	$207	$182	$149	$160	$151	$192
# Topics	216	213	204	176	138	119	101	90	115	135
# Phase I Proposals Received	3,142	3,110	3,449	3,241	2,853	2,344	2,052	1,382	1,240	1,067
# Phase I Contracts	361	409	427	336	363	228	193	166	74	
# Phase II Contracts	185	255	204	177	200	76	102	99	67	
# Phase II Enhancements Funds Invested ($M)		10 $5	32 $19	34 $16	52 $33	33 $21	13 $4.8	19 $9.4	10 $4.6	
# CRP Projects Funds Invested ($M)	25 $15	25 $15	25 $15	25 $15	9 $8	17 $10				

Topic Author Organizations

Organization	2016 Topics
ARL	15
AMRDEC (A)	8
AMRDEC (M)	11
ARDEC	10
ATEC	2
CERDEC	20
ECBC	2
ERDC	2
MRMC	11
NSRDEC	9
SMDC	3
TARDEC	14
PEO AMMO	3
PEO AVIATION	2
PEO C3T	3
PEO CS&CSS	3
PEO GCS	3
PEO IEW&S	2
PEO M&S	4
PEO SOLDIER	5
PEO STRI	3
Total	**135**

TARDEC, PEO-CS&CSS, PEO-GCS
Warren, MI

NSRDEC
Natick, MA

ARDEC. PEO-Ammo
Picatinny, NJ

CERDEC, PEO-C3T, PEO-EIS, PEO-IEW&S APG, MD

ATEC, AMSAA
APG, MD

HQ RDECOM
(APG, MD)

ECBC
APG, MD

ARL Adelphi , MD

MRMC
Ft Detrick, MD

ARO (ARL)
Raleigh, NC

CoE & ERDC
Vicksburg, MS
Hanover, NH

AMRDEC - Missiles, SMDC,PEO-Aviation, PEO-Missiles&Space
Huntsville, AL

AMRDEC - Aviation
Fort Eustis, VA

STTC (ARL), PEO-STRI
Orlando, FL

ARI Arlington, VA
PEO-Soldier, Fort Belvoir, VA

Headquarters RDECOM – Aberdeen Proving Ground, MD

AMRDEC – Aviation & Missile Research, Development & Engineering Center
ARDEC – Armaments Research, Development & Engineering Center
ARL – Army Research Lab
ARO – Army Research Office
CERDEC – Communication-Electronics Research, Development & Engineering Center
ECBC – Edgewood Chemical Biological Center
NSRDEC – Natick Soldier Research, Development & Engineering Center
STTC – Simulation and Training Technology Center
TARDEC – Tank Automotive Research, Development & Engineering Center

Phase I Solicitations

A DoD Agency-wide announcement includes:
- DoD Instructions
- Army Specific Instructions
- Topics

Solicitation Schedule			
Solicitation	Pre-Release	Open	Close
SBIR 16.3	26 AUG 16	26 SEP 16	26 OCT 16
SBIR 17.1	9 DEC 16	9 JAN 17	8 FEB 17
SBIR 17.2	21 APR 17	22 MAY 17	21 JUN 17
SBIR 17.3	25 AUG 17	25 SEP 17	25 OCT 17

** 80-90% Army SBIR topics are submitted in the XX.1 solicitation cycle each year

Preparing a Strong Proposal

- **READ** and **FOLLOW** solicitation instructions

- Focus on the topic and information provided by the author

- Take advantage of the pre-release period

- Emphasize your innovative approach

- If there are technical barriers - <u>address them</u>

- Highlight past successes - Technical & Commercial

- Update Company Commercialization Record

Phase III & Commercialization

- Phase III is the goal of every SBIR effort, and represents the commercialization phase of the program

- Phase III refers to work that derives from, extends, or logically concludes efforts performed under prior SBIR funding agreements, but is funded by sources other than the SBIR Program

- The Army has instituted several programs to facilitate the transition of Phase II projects to Phase III. These programs include:
    - **Technical Assistance**
    - **Transition Support**

Technical Assistance

- Technical Assistance Advocates (TAAs) are strategically placed in nine regions across the Army to provide technical assistance to small businesses that have Phase I and Phase II projects

- **TAAs provide**:
  - Expert advice and analysis to SBIR awardees in improving technical decisions; solving technical problems; minimizing technical risks; and developing/commercializing new commercial products and processes

  - Expert advice and analysis to the government regarding technology transition planning and development of technology integration roadmaps

  - In coordination with all stakeholders, assist in formulating Phase III plans for Phase II projects

Transition Support

1. Transition Assistance

-- Collaboration/Networking with Army technologists and Transition Agents, such as PEOs/PMs

-- Technology Transition Planning and Development

-- Ph III Planning Assistance (Help formulate Strategies and Resource Requirements)

2. Phase II Enhancement and Commercialization Readiness Program (CRP)

-- Both initiatives are complementary; Each authorized by Congress or SBA Policy

 (Guidance reaffirmed in FY12 NDAA, 31 Dec 2011)

-- Purpose: To accelerate the transition to a useable technology

-- Provide $\leq$ $500K Additional Funds to active Ph II firms during their open Ph II contract (Contract Modification)

-- Candidates are identified by local SBIR PC Team, who assesses all Ph II projects during 1st year of contract performance

- Promising technologies that will require activities after year two prototype is delivered, are further evaluated for transition funds
- Activities Funded: Further R&D, TRL Maturation, Prototype T&E, etc to facilitate transition to Ph III

-- Funding is subject to availability and a deliberate approval process

-- Funding commitment from transition partners is *STRONGLY* encouraged

Success Stories

Each Year, Army SBIR compiles success stories on participating small businesses that have achieved commercialization and highlights them in the Army SBIR's Commercialization Brochure publication.

1997-2014 Army SBIR Commercialization Brochures (.pdf downloads available)
https://www.armysbir.army.mil/Commercialization/PhaseIIIBrochures.aspx

2016 Sample Success Stories
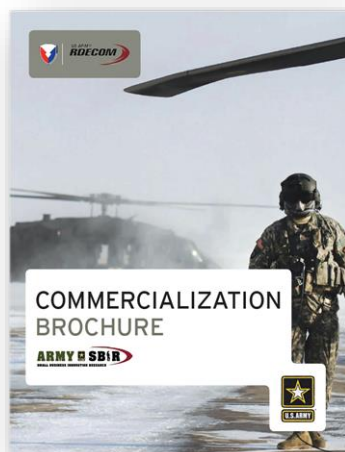
Resources

Army SBIR Program Website:
www.armysbir.army.mil

DoD SBIR/STTR Small Business Portal:
https://sbir.defensebusiness.org/

U.S. Small Business Administration (SBA) SBIR/STTR Program:
www.sbir.gov

SBIR/STTR Gateway (non-govt administered website)
www.zyn.com/sbir/

Contact Information

Army SBIR Help Desk:

Phone: 866-570-7247
Email: usarmy.apg.rdecom-ac.mbx.sbir-program-managers-helpdesk@mail.mil

Program Management Office Address:

Program Manager, Army SBIR
6200 Guardian Gateway
Suite 145
Aberdeen Proving Ground, MD 21005

BACKUP SLIDES

SBIR Paths to Success

ARMY SBIR — SMALL BUSINESS INNOVATION RESEARCH

The Defense Acquisition Management System

User Needs

Technology Opportunities & Resources

A **B** **C** IOC FOC

| Materiel Solution Analysis | Technology Development | Engineering and Manufacturing Development | Production & Deployment | Operations & Support |

ICD

Materiel Development Decision

AoA

CDD

Post PDR Assessment

Post CDR Assessment

CPD

FRP Decision Review

PDR — PDR — CDR

Pre-Systems Acquisition — **Systems Acquisition** — **Sustainment**

PDR: Preliminary Design Review
CDR: Critical Design Review
FRP: Full Rate Production

IOC: Initial Operational Capability
FOC: Full Operational Capability

User Needs feed SBIR Topics

Phase I
Concept Feasibility

1

Phase II
Prototype Development / Demonstration

2

Phase III
Non-SBIR development
• POR Development
• POR Insertion
• Commercial Development (including Primes)
• Commercial Sales

COTS Insertion

Public Domain

2d

2a

2c

2d

1a

2d

2b
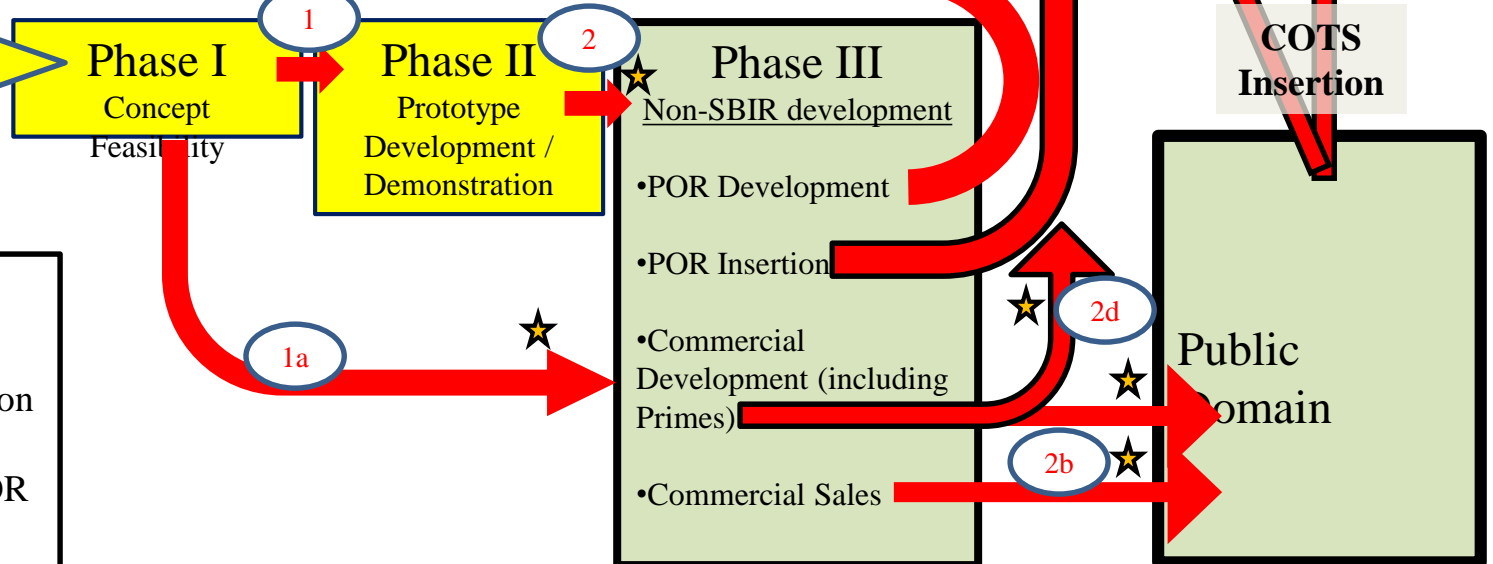
Legend

- ▢ SBIR Managed
- ▢ Commercialization
- → Transition
- → Insertion into POR
- ★ SBIR Success

Eligibility Requirements

✔ Company must be a for-profit U.S. owned and operated small business with 500 or fewer employees

✔ The designated project lead, called the Principal Investigator, must spend more than half of his or her time employed by the small business

✔ While subcontractors and consultants can be used, at least two thirds of the total effort in Phase I and at least one half in Phase II must be performed by the proposing firm

✔ All work must be done in the U.S.

Phases of SBIR

- **Phase I** – is a feasibility study that determines the scientific, technical, and commercial merit and feasibility of a selected concept. Phase I projects are competitively selected from proposals submitted against solicitation topics seeking specific solutions to Army needs.

- **Phase II** – Represents a major R&D effort, culminating in a well-defined deliverable prototype (i.e., a technology, product, or service).

- **Phase III** – Expects the small business or research institute to obtain funding from the private sector and/or non-SBIR government sources to develop the prototype into a viable product or service for sale in government or private sector services.

Feasibility Study

Prototype

Commercial Product

U.S. Army Research, Development & Engineering Command

ERDC
INNOVATIVE SOLUTIONS
for a safer, better world

U.S. Army Corps of Engineers, Engineer Research & Development Center

Army Research Institute

U.S. Army Test & Evaluation Command

Medical Research & Materiel Command

U.S. Army Space and Missile Defense Command

Program Executive Offices

PEO C3T

PEO EIS
PEO ENTERPRISE INFORMATION SYSTEMS

PEO iEW&S

PEO STRI

Army Key Technology Areas

- Advanced Materials & Manufacturing

- Microelectronics and Photonics

- Sensors and Information Processing

- Simulation and Modeling for Acquisition, Requirements, and Training (SMART)

- Engineering Sciences

- Advanced Propulsion Technologies

- Power and Directed Energy

- Biological, Chemical, and Nuclear Defense

- Life, Medical, and Behavioral Sciences

- Environmental and Geosciences

Small Business Participation

✓ Small hi-tech firms from across the country
✓ 3/4 of applicants have fewer than 50 employees

Top Ten
1. CA
2. MA
3. VA
4. NY
5. OH
6. MD
7. TX
8. CO
9. PA
10. FL

72% of Awards

250 - 500 Emps 2%

1 – 9 Employees 39%

10 - 24 Emps 22%

100 - 249 Emps 12%

50 - 99 Emps 12%

25 - 49 Emps 13%
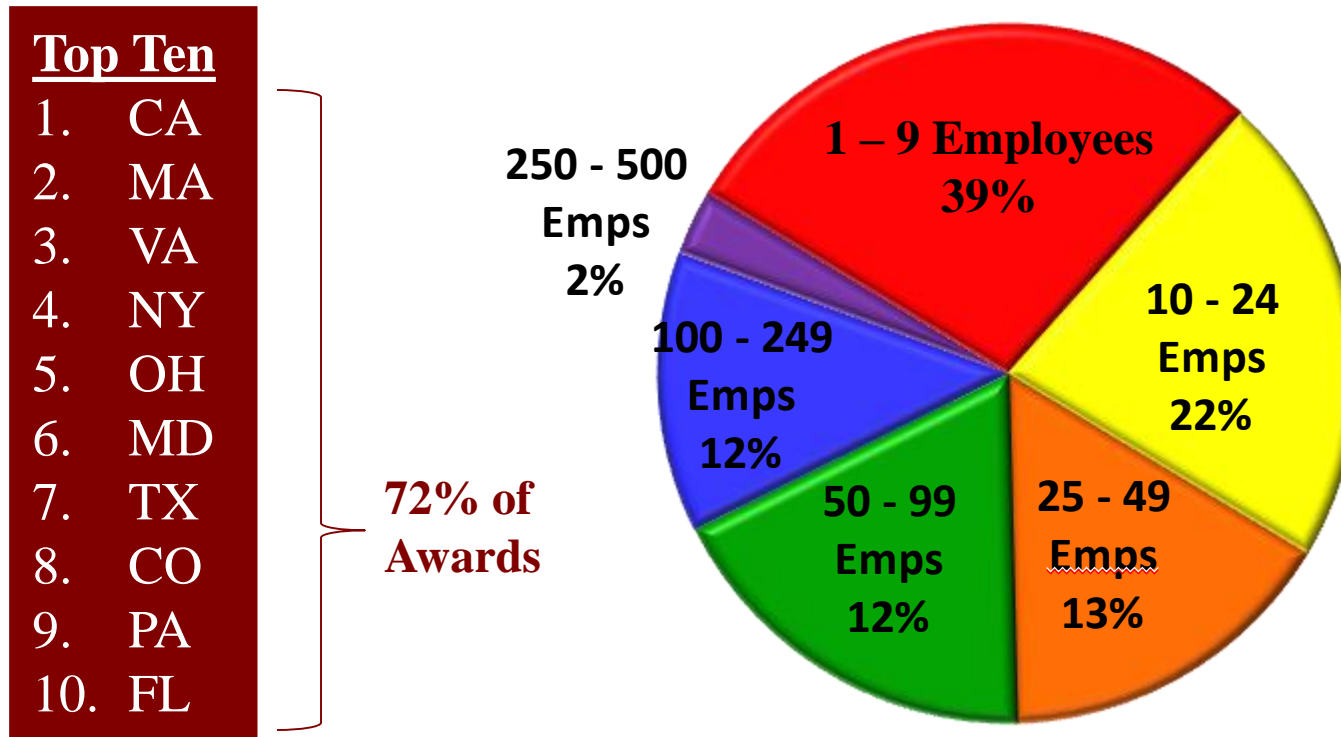
Getting Started

Each year, the Army participates in three Phase 1 and four Phase II DoD SBIR solicitations. The solicitations include topics written by participating Army organizations, which describe their R&D needs that can be addressed by small businesses.

Current and past topics can be found on the DOD SBIR/STTR Small Business Portal website: https://sbir.defensebusiness.org/

To get started:

1. Determine Eligibility
2. Find a Topic or Suggest a Topic
3. Ask Questions
4. Prepare Proposal
5. Submit Proposal
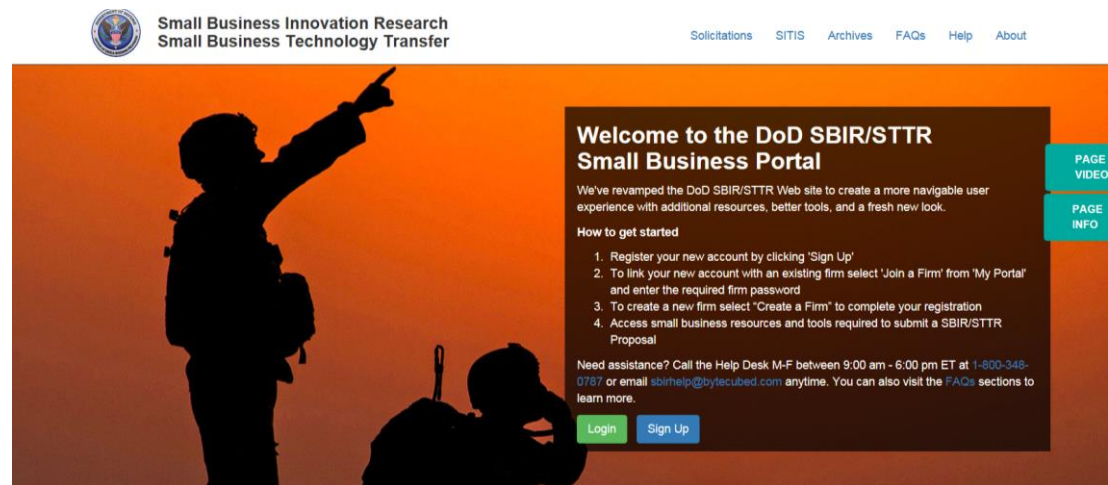
Topic Q&A

DOD SBIR/STTR Small Business Portal website: (https://sbir.defensebusiness.org/sitis)
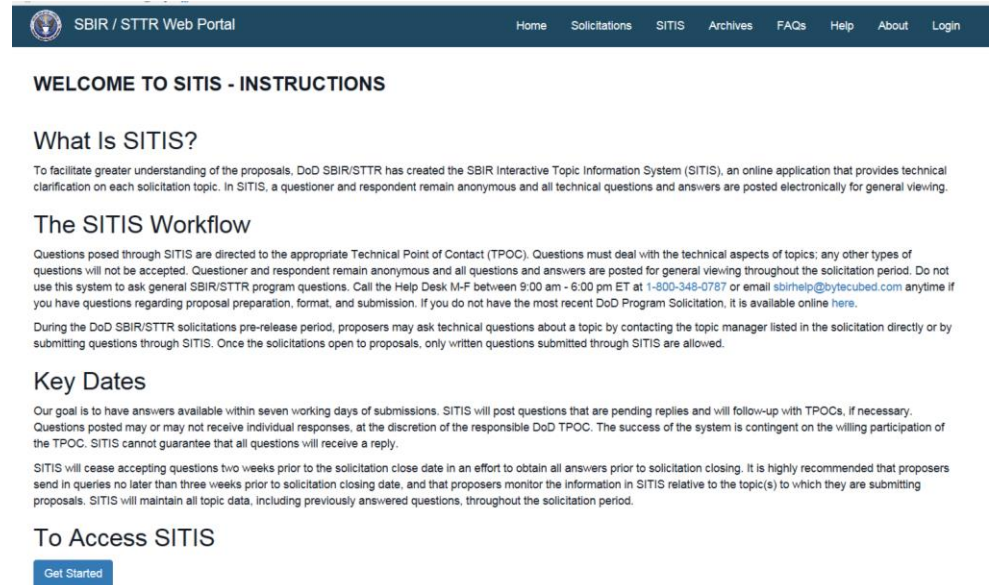
During Pre-Release

- Direct contact with topic authors
- Topic author's contact info listed in topic
- Questions are limited to a specific information related to a particular topic's requirements

During Open Period

- Contact with topic author prohibited
- Questioner and respondent remain anonymous

*Questions and advice on solution approach and submission of additional material is not allowed

Proposal Submission

- Army SBIR Phase I or Phase II proposals must be submitted through the DoD submission system

- The proposals are prepared using online forms and file uploads

- All information contained on the submission site is unclassified

- An online tutorial is available on how to prepare and submit your proposal using the DoD submission site

https://sbir.defensebusiness.org/
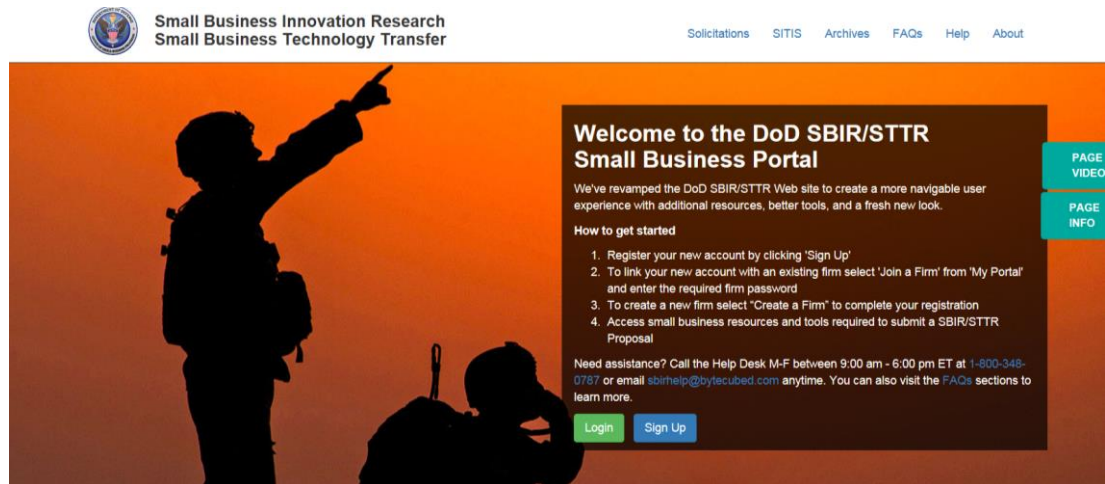
Proposal Evaluations

- The Army conducts a rigorous two-tier evaluation of proposals received in response to a solicitation topic and selects proposals that best satisfy Army needs

- Proposals are evaluated by subject matter experts using the following criteria, which are published in the Solicitation:
  - Technical Feasibility
  - Strength of the Personnel & Facilities
  - Transition Potential

- Each proposal is evaluated on its own merit and not evaluated against other proposals

- The Army SBIR process is very competitive with 10% of the Phase I proposals submitted being selected and 50% of those being selected for Phase II

Phase II Proposals

- **Commencing with Phase II's originating from 13.1 Phase I's, invitations are no longer required to submit a Phase II proposal.** Submission of Phase II proposals originating from 12.3 and earlier solicitations will remain by invitation only. The Phase II submission process for 13.1 and subsequent solicitations are described below.

- Phase II proposals can be submitted by Phase I awardees only within one of four submission cycles shown and must be submitted between 5 to 17 months after the Phase I contract award date. Any proposals that are not submitted within these four submission cycles and before 5 months or after 17 months from the contract award will not be evaluated.

- **Army Phase II Proposals submitted containing a Technical Volume over 38 pages will be deemed NON-COMPLIANT and will not be evaluated.**

- For additional Phase II Proposal submission guidelines and submission cycles, please refer to the Army SBIR Public website: https://www.armysbir.army.mil/sbir/PhaseII.aspx

Award Structure

SBIR	
Phase I	6 Months $100,000 max
Phase I (Option)	4 Month option (government's discretion) $50,000 max, to fund Interim Phase II efforts
Phase II	2 Years $1,000,000 max (not including optional PhII-E/CRP)
Phase II-Enhancement / CRP	Contract Modification to open Ph2 contract; extends PoP 1-2 years and adds ≤ $500K (Total Ph2 contract cannot exceed $1.5M Army SBIR investment)
Phase III	Unlimited time; non-SBIR funding

Program Outreach

- National, Regional, and Local Conferences

- Matchmaking Sessions

- Webinars

- Army SBIR Public Website

- Commercialization Brochures
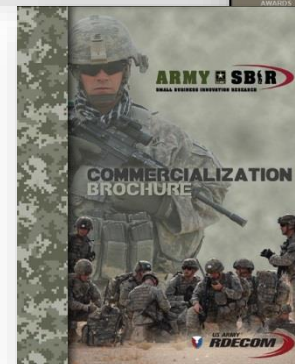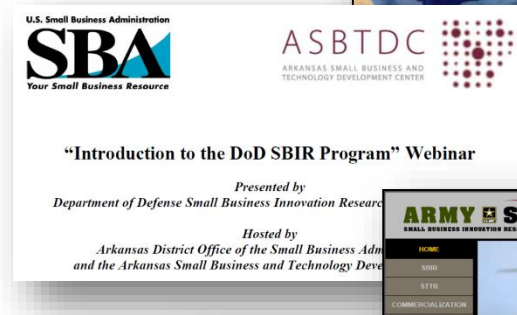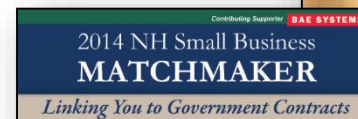
- Extends Program Thru 30 Sep 2017

- Annual 0.1% Budget Increases Until 3.2% Cap

    - FY14 Budget (2.8% of Army Extramural RDT&E): $160M

    - Less Projects...*But* Selected Projects will have greater opportunities for transition funds

- Ph II contract size will be limited to $\leq$ $1.5M (limits Ph2-E/CRP funds $\leq$ $500K)

- No Phase II Invitations for those projects resulting from 13.1 Phase I's (16 Dec 12)

    - Submissions accepted 4x a year and must still compete/down select via Phase I Source Selection

- Allows agencies the option to bypass the Phase I process   (DoD will not implement)

- Allows Venture Capital-backed Firms to participate (DoD will not implement)

- Discretionary Technical Assistance - funding to support commercialization

    - Increased to $5,000 per Phase I and $5000 per year of Phase II

    - Services developing/refining their approach to technical assistance

DoD's Key Technology Areas

1) Air Platforms

2) Chemical / Biological Defense

3) Information Systems Technology

4) Ground and Sea Vehicles

5) Materials / Processes

6) Biomedical

7) Sensors, Electronics, and Electronic Warfare

8) Space Platforms

9) Human Systems

10) Weapons

11) Nuclear Technology

12) Battlespace Environments